

REMARKS

In the last Office Action, claims 1-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,598,383 to Li in view of U.S. Patent No. 6,581,494 to Sechler. Claim 6 was objected to because of awkward wording, and appropriate correction was required.

The drawings were objected to under 37 C.F.R. §1.83(a) as not showing every feature specified in the claims, namely the square nut of claim 3 and the square hole of claim 5. The Examiner required that these features either be canceled from the claims or the drawings appropriately corrected to show these features.

In accordance with this response, claims 1, 2, 4 and 6 have been amended to improve the wording and better conform the claims to U.S. practice and to define the novel features of the invention with more specificity. New claims 7-15 have been added to provided a fuller scope of coverage. The specification has been revised in editorial respects to improve the wording and to provide an antecedent basis for the claim terminology.

In view of the cancellation of claims 3 and 5, the objection to the drawings has been obviated. As presently worded, each of the features recited in the claims is shown in the drawings.

The present invention pertains to a portable watch, such as a divers watch, having an improved structure for removably connecting a winding stem pipe to a case band so that the winding stem pipe can be prevented from loosening without using an adhesive and which has improved waterproof capability. As shown, for example, in the embodiment of Figs. 1-5, the portable watch comprises a case band 13 provided with a pipe-attachment hole 17 that has a female screw section 17a. A winding stem pipe 21 extends through the pipe-attachment hole 17 and has a first male screw section 22 screwed together with the female screw section 17a to removably attached the winding stem pipe 21 to the case band 13, an intracase-band end section 23 extending inside the case band 13 and having a screw section 24 that is a reverse screw from that of the first male screw section 22, and an extracase-band end section 25 extending outside the case band 13 and abutting an outer surface 13a of the case band and having a second male screw section 26.

A clamp ring 29 is screwed together with the screw section 24 of the intracase-band end section 23 in a removable manner, and the clamp ring 29 is engageable with an inner surface 13b of the case band 13 to hold or clamp the extracase-band end section 25 in abutment with the outer surface 13a of the case band. A waterproof gasket 28 is

sandwiched between the case band 13 and the winding stem pipe 21. A crown 31 has a crown main section 32 having a female screw section 35 that is screwed together with the second male screw section 26. A winding stem 37 is connected to the crown 31 for connection to a watch movement.

By such a construction, the crown 31 can be rotated in one direction on the winding stem pipe 21 into locking engagement with the case band 13 to prevent accidental rotation of the crown, which would inadvertently change the time display, etc. To make a time adjustment, the crown 31 is rotated in the reverse direction to disengage the female screw section 35 from the second male screw section 26 of the winding stem pipe 21 thereby unlocking the crown 31, whereupon the crown 31 may be pulled outwardly together with the winding stem 37 to effect adjustment of the time. Due to provision of the clamp ring 29 which holds the winding stem pipe 21 into firm engagement with the outer surface 13a of the case band 13, the winding stem pipe 21 is not loosened, and, therefore, the waterproof function of the waterproof gasket 28 is not diminished. No corresponding portable watch is disclosed or suggested by the prior art.

The primary reference to Li discloses a portable watch having a case band P2 (using the Examiner's nomenclature) provided with a pipe-attachment hole P1 having a

female screw section P3. A winding stem pipe P4 extends through the pipe-attachment hole P1 and includes a first male screw section P5 that is screwed together with the female screw section P3 to removably attached the winding stem pipe to the case band.

However, insofar as disclosed by Li, the winding stem pipe P4 does not have an intracase-band end section extending inside the case band P2 and having a screw section that is a reverse screw from that of the first male section P5. Also, Li does not disclose an extracase-band end section extending outside the case band P2 and abutting an outer surface of the case band. Nor does Li disclose a second male screw section formed on the extra case-band end section that extends outside the case band P2. These limitations, all of which are recited in independent claim 1, are lacking in Li.

Claim 1 further requires a clamp ring screwed together with the screw section of the intracase-band end section in a removable manner and engageable with an inner surface of the case band to hold the extracase-band end section in abutment with the outer surface of the case band. No similar structure is disclosed or suggested by Li. In Li, the winding stem pipe P4 is simply threaded into the pipe-attachment hole P1, and the winding stem pipe P4 does not have an extracase-band end section that abuts with an outer surface of the case band P2, as required by claim 1.

Claim 1 also requires a crown having a crown main section having a female screw section screwed together in a removable manner with the second male screw section of the winding stem pipe. In Li, the crown 31 is integral with the winding stem pipe P4, and the crown 31 does not have a female screw section screwed together in a removable manner with a male screw section of the winding stem pipe, as required by claim 1.

The Li portable watch, as shown in Fig. 2 thereof, uses a double-thread coupling arrangement for connecting the watch cover to the watch casing to provide an improved waterproof seal. The screw winding crown 31 is an integral structure (i.e., a winding crown having a threaded stem) having external and internal thread portions 4 and 5 that threadedly couple with internal and external thread portions of the receiving port 7 so that as the screw winding crown 31 is threaded into the receiving port 7, the externally and internally threaded annular section of the screw winding crown 31 meshes with the matching externally and internally threaded annular recess provided in the receiving port 7 to connect the watch casing to the watch cover while pressing the packing ring (gasket) 6 to create a waterproof and air-tight seal. See, column 2, lines 57-67 and Fig. 2. In complete contrast, claim 1 requires a winding stem pipe and a crown as separate

parts with the crown being removably screwed to the winding stem pipe. No similar structure is disclosed or suggested by Li.

The secondary reference to Sechler pertains to a bicycle riding training system comprised of a crank assembly having crank arms and pedals, wherein the crank assembly can be removed from and attached to a bicycle to enable a beginning rider to walk the bicycle along the ground without using the pedals. In describing Sechler, the Examiner refers to the bicycle parts of the reference using the nomenclature of a watch. Such a contrived interpretation of the reference is without foundation and completely contrary to the entire disclosure of the reference.

It is well settled that during examination, claims must be given their broadest reasonable interpretation consistent with the specification. In re Hyatt, 54 USPQ2d 1664, 1667 (Fed.Cir. 2000). The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In re Cortright, 49 USPQ2d 1464, 1468 (Fed.Cir. 1999). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 13 USPQ2d 1320, 1322 (Fed.Cir. 1989). Ordinary, simple English words whose meaning

is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Chef America, Inc. v. Lamb-Weston, Inc., 69 USPQ2d 1857 (Fed.Cir. 2004). When the claims are construed in this light, it is clear that Sechler does not disclose the various "watch" parts enumerated in the statement of rejection.

For example, the Examiner states that Sechler discloses an intracase-band end section P9; however, P9 denotes an external shaft 4, which is hollow and which receives therein left and right shaft portions 12 and 14 as shown in Figs. 3, 10 and 11 of the reference. The shaft 4 is not an end section of a watch band and, more specifically, is not an intracase-band end section as this term is understood in the art and as it is described and used in the present application. Similarly, the Examiner states that Sechler discloses a watch crown P14 having a crown main section formed with a female screw section P15. This is incorrect, and the part denoted by P14 is a drive side cone forming the inner race of a ball bearing which coacts with a bearing cup 82 to retain a set of balls 81. Contrary to the statement of rejection, the part P9 is not part of a winding stem pipe and the part P14 is not a crown connected to a winding stem pipe,

and the parts P9 and P14 do not correspond in even the remotest sense to parts of the portable watch defined in independent claim 1.

According to the statement of rejection, the Examiner contends that Li and Sechler are analogous art "because they deal with the same problem, namely securing two hollow housing pieces in a watertight/resistant fashion." Applicants vigorously disagree.

Firstly, there is no description whatsoever in Sechler of securing pieces together in a watertight/resistant fashion. Thus the underlying basis on which the Examiner predicates analogous art simply does not exist. Li pertains to a watch and Sechler pertains to a bicycle riding training system, and the two references could not be from more non-analogous arts.

Secondly, "[i]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if,

even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."); Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993); and State Contracting & Eng'g Corp. v. Condotte America, Inc., 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003) (where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved).

Here, the bicycle riding trainer of Sechler is wholly outside the field of applicants' endeavor and is not even remotely pertinent to the particular problems with which the present invention is concerned. The present invention is concerned with removably connecting a winding stem pipe to a case band in a watch so that the winding stem pipe can be prevented from loosening, without using an adhesive, and in which, due to provision of the reversely threaded screw sections on the winding stem pipe one of which is screwed together with a clamp ring, the clamping action of the clamp ring increases when the winding stem pipe is subjected to a rotation force tending to loosen the winding stem pipe thereby

ensuring the waterproof capability of the gasket sandwiched between the case band and the winding stem pipe. Clearly one of ordinary skill in the art would not seek a solution to this problem in the field of bicycles and more particularly, in the field of bicycle riding trainers. Consequently, it cannot be disputed that Sechler pertains to non-analogous art and cannot be properly combined with Li in the manner done in the rejection.

Separate and apart from the foregoing, it is not seen either how Li would be modified by Sechler as proposed in the rejection or how the modified Li watch would correspond to the watch recited in independent claim 1. For example, what modification would be made to the internally and externally threaded screw winding crown 31 of Li in view of Sechler to provide the winding crown 31 with three separate screw sections functioning in the manner recited in claim 1? Since the screw winding crown 31 of Li is an integral structure, what teaching exists in Sechler that would have led one skilled in the art to removably attach the crown portion to the screw winding portion and configure the parts so that the winding stem pipe is maintained in abutment with an outer surface of the case band regardless of the rotation of the crown relative to the winding stem pipe? Absent applicants' disclosure as a teaching basis, nothing in the combined

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teachings of Li and Sechler would have motivated one of ordinary skill in the art to modify the Li watch to arrive at the claimed invention.

Dependent claims 2, 4, 6 and 7 depend on base claim 1 and are patentable over the prior art for at least the same reasons as is claimed 1. Moreover, it is not seen where the combined teachings of Li and Sechler disclose the limitations of claims 4, 6 and 7.

Newly added independent claim 8 is directed to a portable watch comprising a case through which extends a hole having a female screw section; a winding stem pipe extending through the hole and having a first male screw section screwed together with the female screw section to removably attached the winding stem pipe to the case, a second screw section that extends into the interior of the case and has a reverse screw from that of the first male screw section, and a third male screw section that extends to the exterior of the case and abuts an outer surface of the case; a clamp ring screwed together with the second screw section and engaging with an interior surface of the band to hold the third male screw section in abutment with the outer surface of the case; a waterproof gasket disposed between the case and the winding stem pipe; and a crown having a crown main section that has a female screw section screwed together with the third male

screw section to removably connect the crown to the winding stem pipe. The structure of the winding stem pipe and its coaction with the clamp ring and the crown patentably distinguish claim 8 over the combined teachings of Li and Sechler for the reasons discussed above with respect to the patentability of independent claim 1.

Dependent claims 9-15 recite further features of the portable watch including the axial spacing of the first, second and third screw sections of the winding stem pipe (claims 9 and 14), the outer diameters of the first, second and third screw sections (claims 10 and 15), the position and construction of the waterproof gasket (claim 11), the construction of the female screw section of the crown and the third male screw section of the winding stem pipe to enable locking and unlocking of the crown (claim 12), and the location of the third male screw section of the winding stem pipe in an annular clearance formed in the crown (claim 13), and it is not seen where the combined teachings of Li and Sechler disclose these limitations. Dependent claims 9-15, therefore, also patentably distinguish over the prior art.

In view of the foregoing, favorable reconsideration and passage of the application to issue are respectfully requested.

Respectfully submitted,

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